



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,347	06/13/2001	Tetsuo Hosokawa	3531.65621	7010

7590

05/23/2003

Patrick G. Burns, Esq.
GREER, BURNS & CRAIN, LTD.
300 South Wacker Drive., Suite 2500
Chicago, IL 60606

EXAMINER

FALASCO, LOUIS V

ART UNIT	PAPER NUMBER
----------	--------------

1773

DATE MAILED: 05/23/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/880,347

Applicant(s)

HOSOKAWA ET AL.

Examiner

Louis Falasco

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) #3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

PAPERS RECEIVED

Applicants Response to Restriction received March 24, 2003 is acknowledged as paper #5.

DETAILED ACTION

CLAIMS

The claims are 1 - 14

RESTRICTION

Restriction to one of the following inventions has been required under 35 U.S.C. 121:

- Group I.** Claims 1 to 9 and 14, drawn to magneto-optical recording medium, classified in class 428, subclass 694R.
- Group II.** Claims 10 to 13, drawn to a method of sputter coating, classified in class 427, subclass 128.

The inventions of **Group I** and **Group II** had been shown to be distinct, each from the other because of the following reasons:

Inventions **Group II** and **Group I** are related as process of making and product made. The inventions are distinct if either of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the article can be made by a materially different process such processes may include as spray coating or dip coating of the layer on to a base.

Applicant's election with traverse of **Group I**, claims 1 to 9 and 14, which are drawn to a magneto-optical recording medium classified in class 428 subclass 694R in Paper No. 5, received March 24, 2003 is acknowledged.

The traversal is on the ground(s) that the elected claims have common features with the non-elected claims, it wouldn't be a great burden on the examiner and search for the two Groups would likely overlap. This is not found persuasive because though, true, the elected and non-elected Groups may have a common feature - the elected Group directed to an article has been shown to be capable of manufacture by a distinct method and the elected Group does not require the search and examination of a Sputter Coating methodologies and the non-elected method has not been admitted to be an obvious method of preparation. The Group I elected article invention has been shown to be capable of manufacture by a materially different process such as spray coating or dip coating, search and patentability determination of the non-elected method would place a significant burden on the examiner, considerable effort would be placed on search and the examination in assessing the obviousness and novelty of the method in a manner distinct from the product also requiring search of the Sputtering art covering Class 427 subclasses, 128 and indented subclasses and ion implantation subclasses 523+ also Class 204 subclasses 192.1 and indents for ion beam and glow discharge techniques.

The requirement is still deemed proper and is therefore made FINAL.

Art Unit: 1773

CLAIMS

The claims under consideration are: Claims 1 to 9 and 14

ACTIONS ON MERITS

Statutory Basis

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Rejections

1. Claims 1, 8 and 9 are rejected under 35 U.S.C. 102(a or b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Iwata et al** (US 6545955).

Iwata et al teaches the recording medium of the claims that include a recording layer, a magnetic reproducing means with first and second reproducing layer. The first reproducing layer having a first composition (see FIG 3 composition of reproduction layer 1, col. 22 ln 48 or FIG. 8 composition in "Embodiment 3" of layer 1) and the second reproduction layer having a second composition slightly different from the first layer (see FIG 3 noting the composition of supplementary reproduction layer 3, especially "Embodiment 2" as noted in col. 17 to ln 20; col. 22 ln 50-54 or see FIG. 8 composition in the "Embodiment 3" noting supplementary reproduction layer 3 having the similar elemental ingredients but in differing portions, this is also evident from Tables 1 - 4 showing a variations in the Supplemental Reproduction layer, especially note sample #4 in "Embodiment 7" FIG 3, and "Embodiment 9" layers 1 and 5). As to the thickness limitations of the claims 8 and 9 see col. 14 ln 59.

Claims 4, 5, 6 and 7 are rejected under 35 U.S.C. 102(a or b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Iwata et al** (US 6545955).

The claims for Gd alloyed in a variety of atomic percentage ranges, ranging from of .5 - 3. at%, and .7 - 2. at%. The in the 'Embodiments' sections of **Iwata et al** previously noted the supplementary layers containing an alloy of the same components,

differing in amounts of the element Gd – this is also illustrated in Tables 1 through 4 of

Iwata et al - showing compositions that are similar with slight differences in portions and compositions that are similar but for additional rare earth. Though it appears

Iwata et al teaches these – cf ranges in Tables 1 through 4 of Iwata et al – these are not recited in terms of the dependent claims 4-7.

Alternative to anticipation this would have been a matter of routine optimization, merely having an amount that is favorable for effectively supplying reproduction. One of ordinary skill would have been motivated to have the atomic percentages of the instant claims to be a matter of routine optimization to obtain portions in the layer composition with of sufficient strength to reproduce recorded signals (col. 1 lns 34-38).

The claiming of a property not specified in the prior art does not necessarily make a claim patentable.

Where the claimed and the prior art, Iwata et al, products have been shown to be substantially identical in structure or composition, or to be produced by an identical processes, a case of anticipation or *prima facie* obviousness has been established and the burden of proof shifts to applicant to show the products do not necessarily *nor* inherently possess the characteristic in claimed product - see In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).

Claims 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Iwata et al** as applied to claims 1, and 14 above further in view of **Matsumoto et al** (US 6020079 – copy submitted by applicants).

Iwata et al as applied to claims 1, 2 and 14 does not teach the addition of a nonmagnetic intermediate layer however **Matsumoto et al** teaches the addition of a nonmagnetic intermediate layer - see layer 26 of Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt the addition of a nonmagnetic intermediate layer **Matsumoto et al** teaches to the recording means of **Iwata et al** for the purpose of inducing an exchange bonding force in the media for coupling. One skilled in the art would have been motivated to adopt the magnetic intermediate layer **Matsumoto et al** with the anticipation of providing that exchange and the further expectation of increasing the increasing the temperature tolerance of the media for recording information – col. 8 lns 28 – 38.

Claims 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Iwata et al** as applied to claims 1, and 14 above further in view of **Tamanoi et al** (US 6356516).

Iwata et al does not teach the addition of a magnetic intermediate layer however **Taman i et al** teaches the addition of a magnetic intermediate layer - see layer 30 of Fig. 4.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt the addition of a magnetic intermediate layer **Tamanai et al** teaches to the recording means of **Iwata et al** for the purpose of establishing the exchange bonding force the of the media. One skilled in the art would have been motivated to adopt the magnetic intermediate layer **Tamanai et al** with the expectation of increasing the increasing the easy of reading the information recorded - col. 5 lns 40 - 47.

2. Claims 1, 8, and 9 rejected under 35 U.S.C. 102(a or b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Nishimura et al** (US 6125083).

Nishimura et al teaches a recording medium that has a recording layer, a magnetic reproducing layer with a reproducing layer having a first **GdFeCo** alloy composition and a second **GdFeCo** alloy composition layer which composition is slightly different from the first composition (as in the composition of reproduction layer and 'intermediate' layer of Examples 33, 34, 35 and 36 - the second, slightly different, **GdFeCo** alloy composition *cf* Table 8 compositions; those Examples also show the thickness of claims 8 and 9). Applicants' claims call for the "seconding reproducing layer having a second composition slightly different from ... first composition". The term 'intermediate' is used in **Nishimura et al** instead of the word *reproducing*, as in the instant claims. However this is immaterial since the claims under consideration are

Art Unit: 1773

directed solely to an element not any procedure for use of the element, as such the name *per se* is of no consequence – see the **GdFeCo** alloy in col. 56 ln 50 to col. 57 ln 36 and in Table 10 and ‘intermediate’ layers in Table 11).

Claims 4, 5, 6 and 7 are rejected under 35 U.S.C. 102(a or b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Nishimura et al** (US 6125083).

The claims for Gd alloyed in a variety of atomic percentage ranges - ranging from of .5 – 3. at%, and .7 – 2. at%. Though does not teach the precise atomic percentages of the claims, In the Examples 33, 34, 35 and 36 and illustrated in Table 8 of **Nishimura et al** shows making modifications in the atomic percentages through slight additions of other element, e.g. Co, to the Gd alloys could be added to affect corrosion resistance in the element – see for instance see the ‘Experimental Example’ as explained in col. 51 lns 46-63 and in regard to Fig. 31 on col. 52 lns 1-4 and illustrated in Fig. 39. Alternatively to anticipation, this would have been a matter of routine optimization, to vary the atomic percentage of Gd by addition of other elements. One of ordinary skill would have been motivated to have the additional elements varying the atomic percentages in the amounts required by these claims as a matter of routine optimization, the ordinary worker would have been motivated to vary atomic percentages to have increased resistance to corrosion and in order to improve the C.N ratio or cross talk and recording density (col. 87 lns 8-18).

The claiming of a property not specified does not necessarily make a claim patentable.

Where the claimed and the prior art, **Nishimura et al**, products have been shown to be substantially identical in structure or composition, or to be produced by an identical processes, a case of anticipation or *prima facie* obviousness has been established the burden of proof shifts to applicant to show the products do not necessarily *nor* inherently possess the characteristic in claimed product - see In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).

Claims 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nishimura et al** as applied to claims 1, 2 and 14 above further in view of **Matsumoto et al** (US 6020079 - copy submitted by applicants).

Nishimura et al (US 6534162) as applied to claims 1, 2 and 14 does not teach the addition of a nonmagnetic intermediate layer however **Matsumoto et al** teaches the addition of a nonmagnetic intermediate layer - see layer 26 of Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt the addition of a nonmagnetic intermediate layer **Matsumoto et al** teaches to the recording means of **Nishimura et al** for the purpose of inducing an exchange bonding force in the media. One skilled in the art would have been motivated to adopt the magnetic intermediate layer **Matsumoto et al** with the expectation of exchange bonding and increasing the temperature tolerance of the media for recording information - col. 8 lns 28 - 38.

Claims 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nishimura et al** as applied to claims 1, 2 and 14 above further in view of **Tamanoi et al** (US 6356516).

Nishimura et al as applied to claims 1,2 does not teach the addition of a magnetic intermediate layer however **Tamanoi et al** teaches the addition of a magnetic intermediate layer - see layer 30 of Fig. 4.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt the addition of a magnetic intermediate layer **Tamanoi et al** teaches to the recording means of **Nishimura et al** for the purpose of increasing the exchange force in of the media. One skilled in the art would have been motivated to adopt the magnetic intermediate layer **Tamanoi et al** with the expectation having a coupled exchange and increasing the easy of reading the information recorded - col. 5 lns 40 - 47.

3. Claims 1, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hirokane et al** (US 6534162).

Hirokane et al teaches a recording medium that has a recording layer, a magnetic reproducing layer with layers having the same principle ingredients and compositions of that are slightly different (see FIG 11 where composition of magnetization layer 5 has the same principle components only slightly differing from

Art Unit: 1773

the composition of reproduction layer 1, *cf* in Example 3 - col. 16 ln 29 *with* col. 16 ln 43; see also FIG 14 where compositions of magnetization layer 6 / magnetization layer 7 have the same components only slightly differing in composition from the reproduction layer 1, *cf* in Example 5 - col. 18 ln 56, 66, col. 19 lns 50, 51 *with* col. 19 ln 1; see FIG 18 where composition of magnetization layer 5 has the same principle components only slightly differing from the composition of reproduction layer 1, note also in Example 6 - col. 20 ln 58 teaching the thickness limitations of dependent claims 8 and 9, also *cf* in Example 8 - col. 22 ln 64, *with* col. 22 ln 66; see FIG 19 where composition of magnetization layer 6 / layer 7 have the same principle components only slightly differing from the composition of reproduction layer 1, *cf* in Example 9 - col. 24 ln 21, *with* col. 24 ln 22, 23) .

Claims 4, 5, 6 and 7 are rejected under 35 U.S.C. 103(a) as obvious over **Hirokane et al** (US 6534162).

Dependent claims 4, 5, 6 and 7 claim for a Gd alloyed in a variety of atomic percentage ranges, ranging from of .5 - 3. at%, and .7 - 2. at%. The Examples of **Hirokane et al** - notably in Example 37 - call for the layers containing a differing amount of Gd - and this is also illustrated Tables 1 and 2. However in the Example 5 the Gd composition in atomic percent difference are not given for the Gd composition alloyed intermediate layers. A rational selection is required of **Hirokane et al**.

This would have been a matter of routine optimization, merely having an amount that is favorable for adequately reproducing. One of ordinary skill would have been motivated to have the atomic percentages of the instant claims to provide polarity for saturation magnetism (col. 59 lns 28-31).

The claiming of a property not specified does not necessarily make a claim patentable.

Where the claimed and the prior art, **Hirokane et al**, products have been shown to be substantially identical in structure or composition, or to be produced by an identical processes, a case of anticipation or *prima facie* obviousness has been established and the burden of proof shifts to applicant to show the products do not necessarily *nor* inherently possess the characteristic in claimed product - see In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).

Claims 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hirokane et al** (US 6534162) as applied to claims 1, 2 and 14 above further in view of **Matsumoto et al** (US 6020079 - copy submitted by applicants).

Hirokane et al (US 6534162) as applied to claims 1, 2 and 14 does not teach the addition of a nonmagnetic intermediate layer however **Matsumoto et al** teaches the addition of a nonmagnetic intermediate layer - see layer 26 of Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt the addition of a nonmagnetic intermediate layer

Matsumoto et al teaches to the recording means of **Hirokane et al** for the purpose of

inducing an exchange bonding force in the media. One skilled in the art would have been motivated to adopt the magnetic intermediate layer **Matsumoto et al** with the expectation of providing exchange coupling and the increasing the temperature tolerance of the media for recording information – col. 8 lns 28 – 38.

Claims 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hirokane et al** (US 6534162) as applied to claims 1, 2 and 14 above further in view of **Tamanoi et al** (US 6356516).

Hirokane et al (US 6534162) as applied to claims 1, does not teach the addition of a magnetic intermediate layer however **Tamanoi et al** teaches the addition of a magnetic intermediate layer - see layer 30 of Fig. 4.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adopt the addition of a magnetic intermediate layer **Tamanoi et al** teaches to the recording means of **Hirokane et al** for the purpose of establishing exchange in the of the media. One skilled in the art would have been motivated to adopt the magnetic intermediate layer **Tamanoi et al** with the expectation of having exchange coupling and increasing the easy of reading the information recorded – col. 5 lns 40 - 47.

OTHER REFERENCES

Hirokane et al (US 6463016) is cited as being of interest, showing nonmagnetic layers in magneto-optical elements.

CONCLUSION

The claims are 1 to 9 and 14.


- Restriction has been required.
- No claim has been allowed.
- No Information Disclosure Statement has been received.

INQUIRES

Any inquiry concerning this communication from the examiner should be directed to examiner Louis Falasco, Ph.D. whose telephone number is 703.305-6974. The examiner can normally be reached M-F 9:30 AM – 6:00 PM.

- If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Paul Thibodeau may be reached at 703.308-2367.
- The Fax phone numbers for the organization where this application or proceeding is assigned are: 703.872-9310 for regular communications and 703.872-9311 for After Final communications.
- An inquiry of a general nature or relating to status of this application or proceeding should be directed to the TC 1700 receptionist whose telephone number is 703.308-0651.

LF
5/03


STEVAN A. RESAN
PRIMARY EXAMINER